



Standard Autonomous File Server: SAFS

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SAFS URL

<http://www.wff.nasa.gov/~web/safs/>



SAFS: Requirements

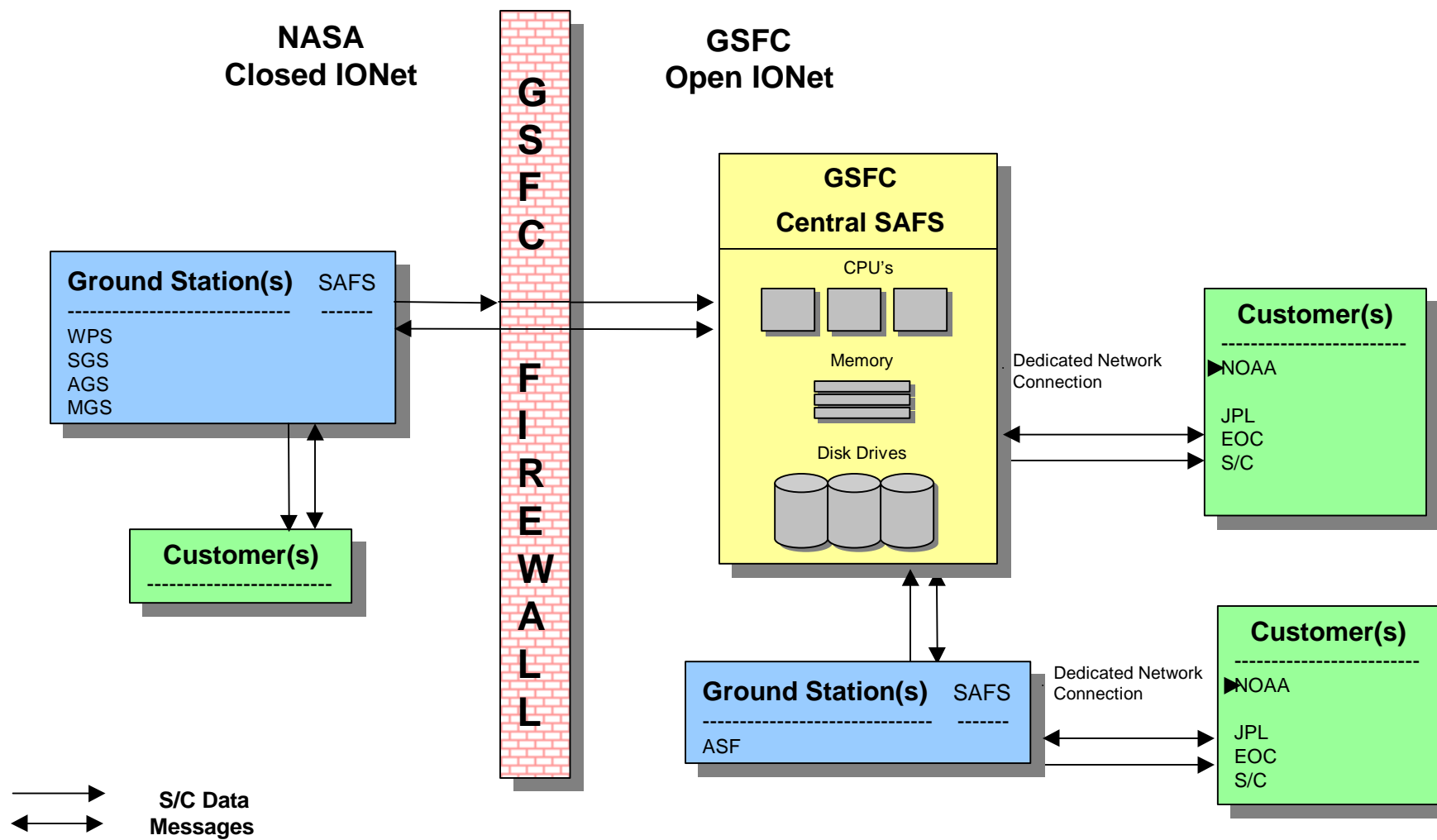


SAFS shall:

- ◆ Receive data files from the telemetry processor(s) within the ground station.
- ◆ Manage the data files transferred from the telemetry processor(s).
- ◆ Handle data file dissemination.
- ◆ Provide a file transfer verification method.
- ◆ Perform file management on the processed files.



SAFS: Architecture



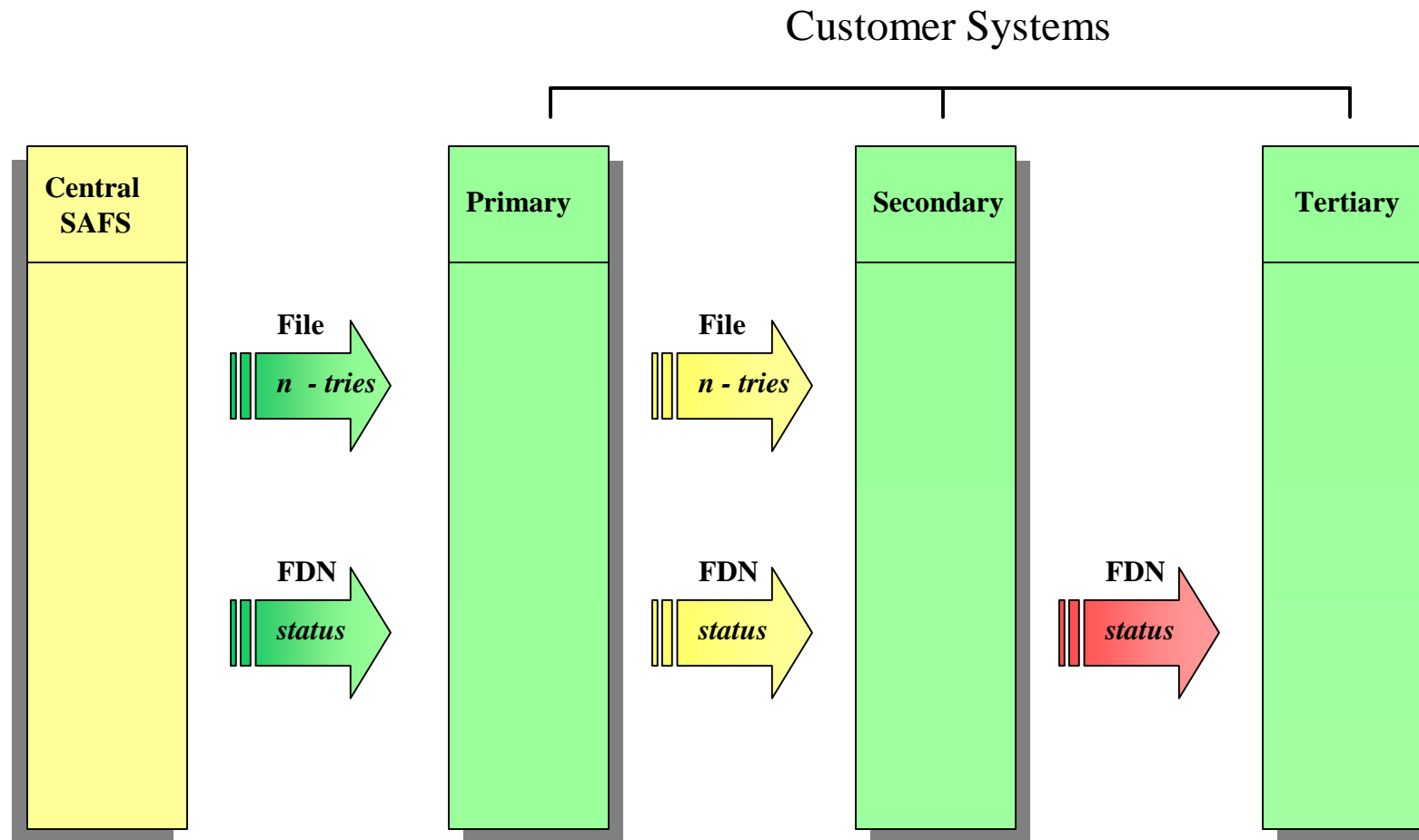
02/26/99

EPGS ORR

3



SAFS: Push Transfer Failover Options





SAFS: Summary



❖ **Successful** installation/configuration/connectivity testing

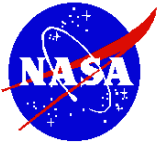
- completed - WGS/AGS/SGS/MGS/Central SAFS
- in progress - ASF (at Wallops)

❖ **Successful** testing performed on the following customers:

- JPL: primary & secondary system
- NOAA: primary & secondary system
- MOC: primary & secondary system

❖ **Successful** automated file transfer soak testing since 6/19/98

- WGS/AGS/SGS/MGS SAFS to the Central SAFS and on to the customers



SAFS: Summary - cont'd



- ❖ **Successful** manual recovery (pull) testing has been performed
 - By each of the customers from the Central SAFS
- ❖ **Successful** completion of QuikSCAT I & T Test# 1 - 4E
- ❖ Customer feedback:
 - “ if QuikSCAT were to launch tomorrow, we could confidently handle the playback data files in an automated fashion without losing any data.” Tom Fouser, JPL - 6/12/98



❖ SAFS System Components

- ◆ DataDirect Network RAID System: Renewal PR's in process
 - SGS/MGS - 1 year parts and 7 x 24 hotline support
 - AGS/ASF/WGS/Central - 1 year on-site, parts, 7 x 24 hotline support
- ◆ SGI Server: 2 years remaining on contract
 - SGS/MGS - no contract/spares in place + spares in lab
 - AGS/ASF/WGS - on-site, parts, 5 x 8 hotline support
 - Central - on-site, parts, 7 x 24 hotline support
- ◆ COTS Software: contract to be renewed in June 1999
 - AGS/ASF/MGS/SGS/WGS/Central - upgrades, 5 x 8 hotline support
 - Project customers responsible for their contract renewals



❖ SAFS System Components

- ◆ DataDirect Network RAID System:
 - SGS/MGS/AGS/ASF/WGS/Central - some spare parts on-site, full spare kit purchase recommended
- ◆ SGI Server:
 - SGS/MGS - spares on-site + spares in lab
 - AGS/ASF/WGS - purchase recommended
 - Central - downsized system purchase recommended



SAFS: Possible Backup Contingencies



1. Network degradation/problems:

- ◆ SAFS/customer monitoring
- ◆ WPS Link Controller (LC) notification
- ◆ Network personnel notification

2. SAFS “push” failure

- ◆ Retry *n* times
- ◆ Use secondary destination
- ◆ E-mail FDN with failure status
- ◆ Customer “pulls” files

3. Ground Station (GS) SAFS system down

- ◆ GS Master monitors SAFS heartbeat
- ◆ Remote debugging
- ◆ Contract maintenance support
- ◆ Server Redundancy *
- ◆ RAID failure: redirect storage to server with large drive *
- ◆ Files re-routed to backup SAFS *

4. Central SAFS system down

- ◆ GS SAFS/customer monitoring
- ◆ WPS LC notification
- ◆ Network Operations Center (NOC) personnel “hands and feet”
- ◆ Mission critical support activation
- ◆ Server Redundancy *
- ◆ RAID failure: redirect storage to server with large drive *
- ◆ Files re-routed to backup Central *

* additional procurement needed